MAY 14 1979

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April 30, 1979

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JHA

Mr. John Avalos
Los Angeles Department of Water and Power
Post Office Box 111
Room 636
Los Angeles, California 90051

CFPO

DIST	CC	AT
IPP BRD	X	X
IPA BRD	X	X
JCF		
RDS		
AW	X	X
ATD	X	X
BMT		
JLM	2	2
CAE		
NEN		
RLH	X	X
JHA		
BC	X	X
JPS		
WVP	X	X
THM		
CDH		
LEJ		
GRS		
FK		
"R"		
JA	X	X
FILE	X	X

PER JHA
5-7-79

Dear Mr. Avalos:

While the general design parameters of the proposed 3000 MW plant are not site specific, some specific parameters may change to conform to site constraints. In order to expedite PSD review of the Lynndyl site proposal, we have extracted parameters necessary for PSD review from information generated for the Salt Wash site. This information is presented in Enclosure 1. If you would review this information and verify that it is still applicable to the Lynndyl site, this assistance would be appreciated.

There were a few other parameters for which we were unsure of the specific information. These requested clarifications are presented in Enclosure 2.

Please respond to these questions in writing to EPA, Region VIII with a copy to me. Your assistance in this matter is appreciated.

Sincerely,

PEDCo ENVIRONMENTAL, INC.

John M. Zoller

John M. Zoller
Project Manager

JMZ:nb

Enclosures

cc: N. Huey
J. Rakers
E. Pfetzing

PN 3470-3-S

ENCLOSURE 1
INTERMOUNTAIN POWER PROJECT
LYNNDYL SITE

Please verify this information obtained from the permit application.

Fuel Characteristics

The primary fuel will be low sulfur pulverized coal with the following characteristics:

Average	Worst case burned
12,000 Btu/lb (dry)	10,200 Btu/lb (dry)
0.61% S	0.79% S
8.8% ash	10.1% ash

In addition No. 2 fuel oil will be used as a startup fuel. No other fuels are contemplated as alternates with the exception that heavier fuel oils are being considered as a startup fuel. The "worst case burned" represents the fuel with the highest emissions per Btu that will be permitted to be fed to the boiler. When coal deliveries have sulfur and ash contents greater than "worst case burned," the coal will be distributed on the active coal pile in such a manner that when fed into the boiler the blend will be coal at least with the characteristics given above. All coal deliveries are expected to be within the following ranges:

10,600-13,500 Btu/lb (dry)
5-15% moisture
0.5-1.0% S
4.4-12.5% ash
0.01-0.03% Cl

The above characteristics are those of the coal that is expected to be burned at the Lynndyl site, however, no contracts have been signed for the coal supply at this time.

Electrostatic Precipitator

The rigid type electrostatic precipitators will be installed ahead of the air preheater to take advantage of lower resistivity of the fly ash; temperature at this point is expected to average

700°F and be in the range of 650 to 850°F. The electrostatic precipitator will have a design efficiency of 99.5%. Based on worst case emissions contained in the modeling report, the short term particulate emission rate for the facility is 75.8 g/sec. Based on a heating value of 10,200 Btu/lb and 1550 t/hr coal input, this yields an emission rate of 0.019 lb/MM Btu. It should be noted that the proposed NSPS for particulates is 0.03 lb/MM Btu and BACT would at least be at this level. This emission estimate contains an additional 50% control of particulates in the scrubber for an overall particulate control efficiency of 99.75%. Operating parameters of the proposed precipitators are:

Flow rate - 5,400,000 acfm at 700°F

Temperature - Design 700°F; range 650°F to 850°F

No. of modules - Each boiler (4) will have four double-chamber units

No. of sections - Each boiler (4) will have 64 bus sections, 32 high voltage supplies and a minimum of 4 fields for each precipitator.

Maximum gas velocity - 6 fps (actual) through precipitators

Automatic controls - High speed silicon controlled rectifier or magnetic-amplifier type; (may also be controlled manually)

Plate cleaning - Mechanical rapping system (either hammer and anvil or drop rod design) collected in hopper having 12 hr storage capacity.

Sulfur Dioxide Scrubber

The scrubber will be of the horizontal design type utilizing lime as the absorbent material. In addition to a design SO_2 removal efficiency of 90% the scrubber will also remove 50% of those particulates not removed by the electrostatic precipitator. While there will be no special liquor additives, the sludge filter cake will be washed prior to disposal returning soluble sodium and magnesium salts to the liquor.

The total FGD system will consist of 5 individual horizontal spray scrubber modules each treating 20% of the flue gas flow. Each module will contain 5 stages with one used only as a "spare" when needed. Based on worst case emissions contained in the modeling report, the short term SO_2 emission rate for the facility is 584.8 g/sec. Based on a heating value of 10,200 Btu/lb and 1550 t/hr coal input this yields an emission rate of 0.147

lb/MM Btu. It should be noted that the proposed NSPS for SO_2 is 1.2 lb/MM Btu with 85% reduction of uncontrolled emissions and BACT would at least be at this level. Operating parameters of the proposed horizontal scrubbers are:

Flow rate - inlet 1,920,000 scfm
outlet 2,040,000 scfm
Temperature - inlet 280°F
outlet 170°F after reheat; 116°F before
Gas velocity - Design 20 fps

Flue gas entering the module will be presaturated with water to cool the gases and to prevent scaling problems associated with the wet-dry interface area of the scrubber. Presaturation will supply about 90% of the water requirements of the scrubbing system. The scrubber will contain no moving parts and will be designed to be relatively free from surfaces which could cause scaling and plugging problems. The inclusion of a fifth "spare" spray stage will provide flexibility in repair of the system without system shutdown.

Fugitive Particulate Sources

° Coal Storage - coal will be stored in four general areas: a large reserve pile, a small reserve pile, an emergency active pile, and twin active coal piles. Storage pile parameters are:

Total storage capacity - 1,860,000 tons (48 days)

Twin active pile capacity - 120,000 tons (3 days)

Small reserve pile capacity - 190,000 tons (5 days)

Large reserve pile capacity - 1,550,000 tons (40 days)

Emergency active pile capacity - 120,000 tons (3 days-to be used only when stacker/reclaimer is out of service)

Approximate dimension of coal storage piles (estimated from Figure B-1, B-19, and text)

Large reserve pile - 1300 ft x 1650 ft

Small reserve pile - 650 ft x 800 ft

Emergency active pile - conical 150 ft radius; 125 ft hgt

Active coal piles - 150 ft x 2400 ft x 41 hgt each

Controls to reduce fugitive particulate emissions from coal piles include:

Reserve piles - piles will be well compacted and a surface crusting agent will be applied to sides of piles

Twin active storage piles - piles will be bounded by earth berms approximately the same height as the piles to prevent wind erosion.

- Coal transfer (conveyors will be enclosed on three sides) - The facility will use approximately 10,000,000 tons of coal per year. This volume of coal will be transferred through the following transfer points. The following controls will be employed at these points.

Dumping by unit trains - tandem unloading will be partially enclosed; chemically treated water sprays will be operated when dumping.

Transfer from 150 ton hoppers to apron feeder - total enclosure

Weigh scale - partial enclosure

Transfer to 750 ton surge bin - total enclosure with venting to a fabric filter

All transfers following crusher - enclosed within building

The following transfer points will handle less than the full 10,000,000 t/yr of coal. The following controls will be employed at these points.

Transfer to active pile - chemically treated water sprays

Loadout from active pile - chemically treated water sprays

Transfer to emergency active pile - telescopic chute

Loadout from emergency active pile - total enclosure, feed from under pile

Transfer to reserve piles - no control

Loadout from reserve piles - no control

Diversion to storage pile - chemically treated water spray

- Coal crushing - 10,000,000 t/yr will be processed; control will be total enclosure and venting to a fabric filter.

- Lime transfer and storage - The expected average lime usage will be 2000 t/week. Deliveries will be made by truck (or rail if available). All transferring of lime from unloading to usage will be pneumatically.

- Bottom economizer and precipitator ash handling - All bottom and economizer ash will be transported using water as a medium. Fly ash will be transported to the silo pneumatically. Air used for conveying the ash will be returned to the precipitator in a closed system. Ash from the silo will be mixed with scrubber sludge or scrubber water before hauling by truck to the disposal site.

NO_x Control

The specific boiler manufacturers has not been selected therefore the boiler design characteristic employed to control NO_x is not presently known. It should be noted that the new proposed NSPS for NO_x for this facility is 0.60 lb/MM Btu and BACT would at least be at this level.

ENCLOSURE 2
INTERMOUNTAIN POWER PROJECT
LYNNDYL SITE

The following information would assist in completing our review. Please submit any of the data that are available.

Electrostatic precipitator

1. Particle size estimate of ash (if known)

2. Estimated resistivity of particulate at 700°F

3. Specific collection area (ft^2/1000 acfm)

4. Aspect ratio

5. Nature and terms of performance guarantee envisioned

Sulfur dioxide scrubber

1. Materials of construction for presaturator, absorber internals, mist eliminator, reheater, and recycle pumps (if known)

2. Instrumentation/controls - Method of control of process chemistry; method of monitoring SO_2, particulate, % solids, etc.

3. Nature and terms of performance guarantee envisioned

Fugitive particulate sources

1. How will coal be transferred to and from reserve piles?

2. Estimate of how much coal will be transferred to the following (t/yr): Active pile, emergency active pile, small reserve pile, large reserve pile

3. Will earth berms of coal piles be treated to reduce fugitive emissions?

4. Will any roads be unpaved? If so what is the estimated length of the unpaved roads and estimated vehicle usage?

5. Will "dry" area of sludge and ash disposal site be stabilized to reduce fugitive emissions? What is estimated "dry" unstabilized area (acres)?

6. What is estimated height of reserve coal piles?

7. Will lime transfer air be a closed system or vented to a fabric filter?

NO_x

1. Nature and terms of performance guarantee envisioned

General

Are there any changes in the parameters given in Enclosure 1 for the Lynndyl site?